



NASA **DUSTRY** *f* **ORUM**

CENTER INDUSTRY COUNCIL SUCCESS STORIES

FALL 2019 EDITION

FEATURED BUSINESSES

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Office of
Small Business Programs (OSBP)
where small business makes a **big** difference



OFFICE OF SMALL BUSINESS PROGRAMS

WHERE
**SMALL
BUSINESS**
MAKES A
BIG
DIFFERENCE

VISION STATEMENT

The vision of the Office of Small Business Programs at NASA Headquarters is to promote and integrate all small businesses into the competitive base of contractors that pioneer the future of space exploration, scientific discovery, and aeronautics research.

MISSION STATEMENT

Our mission in the Office of Small Business Programs is to:

- ◆ ensure that the Agency is compliant with all Federal laws, regulations, and policies regarding small and disadvantaged business utilization; and
- ◆ provide expertise on the utilization of all categories of innovative small businesses, including minority serving institutions that can deliver technical solutions in support of NASA.

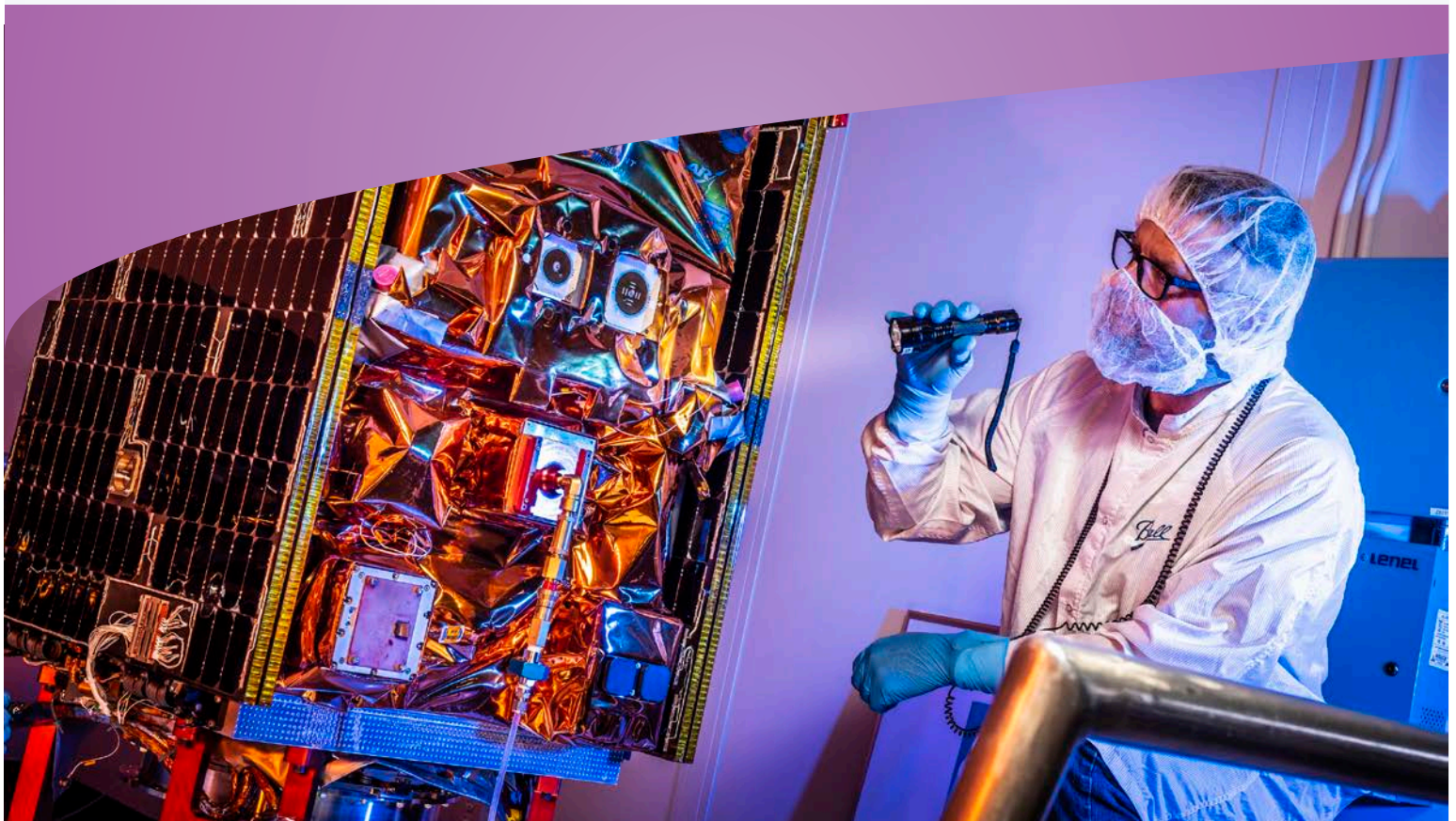
LIST OF CORE FUNCTIONS

Advocacy: Advise the Administrator on all matters related to small business.

Promote Small Business: Develop and manage NASA programs that assist all small business categories and communities.

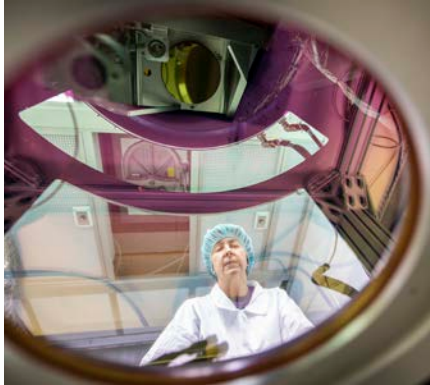
Small Business Focused Government Contracting: Develop small businesses in high-tech areas that include technology transfer and commercialization of technology, and maximize the number of practicable opportunities for small business participation in NASA prime contracts and subcontracts.

Entrepreneurial Development: OSBP and NASA Centers provide individual face-to-face and Internet counseling for small businesses throughout the United States and in U.S. territories.





ABOUT THE NASA INDUSTRY FORUM



The NASA Industry Forum (NIF) is an Agency-wide endeavor to share Center-level information that is of concern to both NASA and NASA's contractors. The NIF is composed of contractor representatives from all NASA Centers. Contractor representatives participate in Center-level non-consensus forum discussions at NIF meetings. The NIF includes representatives from both small and other-than-small businesses. The NIF is not expected to reach consensus decisions, nor to provide consensus advice or recommendations to the Agency.



Centers recommend vendors that participate in their industry councils to the Office of Small Business Programs (OSBP) to participate in the NIF, and the Associate Administrator for Small Business Programs invites representatives from these recommendations to participate.

The NIF meets twice per year in the spring at NASA Headquarters in Washington, DC, and in the fall at a designated NASA Center.

This publication is the result of the NIF's priority to "Help Small Businesses Grow Their Business," and its purpose is to highlight small business achievements as well as successful partnerships between small and large contractors at NASA and to share their stories. The booklet is published once a year in the fall and is available for download at <http://www.osbp.nasa.gov/publications.html>.



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NASA **INDUSTRY** *f*ORUM

REPRESENTATIVE COMPANIES

AMES RESEARCH CENTER

Arctic Slope Regional Corporation (ASRC)
Research and Technology Solutions
Small Business

Bay Systems Consulting, Inc.
Small Business

Jacobs Technology, Inc.
Large Business

Universities Space Research Association (USRA)
Large Business

ARMSTRONG FLIGHT RESEARCH CENTER

Arctic Slope Regional Corporation (ASRC)
Federal InuTeq, LLC
Small Business

Media Fusion, Inc.
Small Business

GLENN RESEARCH CENTER

Zin Technologies, Inc.
Small Business

GODDARD SPACE FLIGHT CENTER

INNOVIM, LLC
Small Business

KBRwyle
Large Business

Omitron, Inc.
Small Business

Sierra Lobo, Inc.
Large Business

Science Systems & Applications, Inc. (SSAI)
Small Business

Vantage Systems, Inc.
Small Business

JET PROPULSION LABORATORY

Space Vector Corporation
Small Business

ManTech
Large Business

JOHNSON SPACE CENTER

The Boeing Company
Large Business

Jacobs Technology, Inc.
Large Business

Lockheed Martin
Large Business

Logical Innovations, Inc.
Small Business

KENNEDY SPACE CENTER

Apache-Logical, JV
Small Business

Arctic Slope Regional Corporation (ASRC)
Federal Data Solutions, LLC
Small Business





Jacobs Technology, Inc.

Large Business

Millennium Engineering and Integration Company

Small Business

LANGLEY RESEARCH CENTER

Analytical Mechanics Association, Inc.

Small Business

Genex Systems, LLC

Small Business

Jacobs Technology, Inc.

Large Business

Science Applications International Corporation (SAIC)

Large Business

MARSHALL SPACE FLIGHT CENTER

Aetos Systems, Inc.

Small Business

AVISTA Strategies, Inc.

Small Business

The Boeing Company

Large Business

Jacobs Technology, Inc.

Large Business

Linc Research, Inc.

Small Business

Northrop Grumman Innovative System

Large Business

Sierra Nevada Corporation

Large Business

Teledyne Brown Engineering

Large Business

NASA SHARED SERVICES CENTER

Brandan Enterprises

Small Business

Science Applications International Corporation (SAIC)

Large Business

STENNIS SPACE CENTER, MICHoud ASSEMBLY FACILITY

A2 Research, JV

Small Business

METIS FLIGHT RESEARCH ASSOCIATES, LLC

AMES RESEARCH CENTER



NASA Administrator Jim Bridenstine flying the lunar cab in the Virtual Motion Simulator.



Administrator Bridenstine with Ames Center Director Eugene Tu, Ames Aeronautics Director Huy Tran and MFRA's Bo Bobko.

Tell us about your company's history and its capabilities.

Metis Flight Research Associates, LLC (MFRA) is a purpose-built, unpopulated joint venture of three small businesses joined to support NASA Ames Research Center's Aerospace Systems Modeling and Simulation (SimLabs III) contract and related programs. Metis Technology Solutions, Inc., Flight Research Associates, Inc. (FRA), and SYMVIONICS, Inc. are all small businesses under the 541330 NAICS code. MFRA's capabilities are in aerospace, systems and software engineering related to aerospace modeling and simulation, development, maintenance, and operations of simulation facilities for NASA and the Department of Defense (DOD). The three companies formed an innovative and unique small business partnership to pool the resources and

experiences of the companies in order to pursue modeling and simulation opportunities at NASA and other agencies. MFRA demonstrates how small businesses with synergistic capabilities can help each other to collaboratively pursue new business.

How many employees does your company have?

0–50

Describe what services or support you provided at the NASA Center(s).

MFRA provides the following engineering support to SimLabs facilities: the Vertical Motion Simulator, Future Flight Central, and the Crew-Vehicle Systems Research Facility. MFRA operates and performs sustaining engineering for all simulation facilities and also works with researchers to customize distributed real-time simulations, and generate and validate research data. Services provided under SimLabs III include: systems engineering, software development and systems administration, aerospace engineering and applications programming, graphics programming, simulator hardware and mechanical systems engineering and operations, safety and mission assurance, configuration management, outreach and subject matter expert recruitment, and related contract management functions.

To which opportunity did you respond (Center and RFP name) and how did you find out about the opportunity?

All three members of MFRA were incumbent subcontractors on the predecessor SimLabs II contract. The companies decided to form an all-small joint venture after NASA determined that SimLabs III would be a set-aside for small businesses under the 541330 NAICS code. FBO was used to track solicitation release and amendments, and we took advantage of Industry Day events.

How long (in months) did you spend tracking the opportunity prior to proposal submission?

13–18 months

How far in advance of the RFP did you start your pursuit and visits with the customer?

13–18 months

Did you start writing your proposal before the draft RFP was released?

No

How many pre-RFP visits were made to NASA during your capture and proposal efforts?

More than 10

How did you develop your team?

We developed a team of JV partners, subcontractors (from American Systems and Crown Consulting) and preferred vendors (from OSI, ATAC, and Cavan) who all had relevant capabilities and in most cases successful history of performance with the NASA SimLabs customers. There were existing strategic relationships between many of the teammates.

What factors did you consider when selecting your teammates and subcontractors?

MFRA considered several factors, including capabilities to result in complete coverage of the opportunity Statement of Work (SOW), relevant past performance, outstanding past performance ratings, reachback and surge support potential, strong track record of successful recruiting and retaining high-quality staff at NASA Ames, and a shared culture of focus on customer and employee satisfaction.

What do you think were the most important factors to forming a winning team?

The most important factor was early due diligence to understand customer requirements and challenges, and then to form a team to meet those. MFRA studied NASA-published strategic plans and roadmaps to understand how the composition of our team could benefit NASA in the long run, as contract requirements would evolve to meet Agency goals. Previous success in recruiting and retaining highly qualified staff was also an important factor.

Did you attend the Small Business Council meetings?

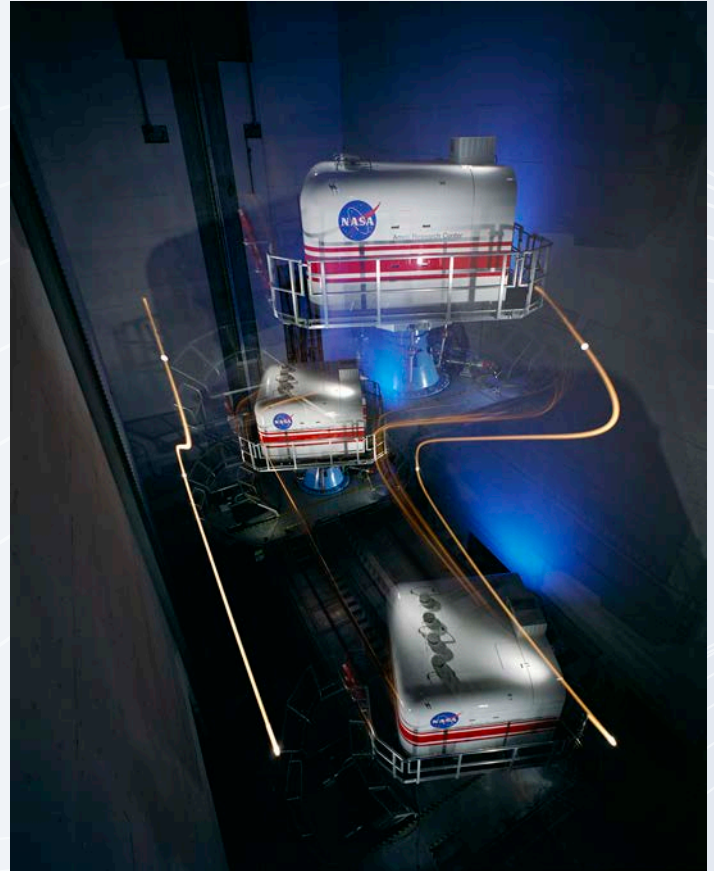
Yes

Did you attend Industry Day?

Yes

Did you find the NASA proposal took less time or more time to prepare than you expected? Compared to other Federal agencies?

Proposal development went as expected. However, the proposal production process was more time consuming than expected. As a small business consortium, we did not have the dedicated resources and infrastructure for production that large companies have. We



Vertical Motion Simulator (VMS).

pulled together as a team to pool our resources to accomplish the production task.

What was the estimated total cost to your company to prepare the proposal?

\$50,000–\$100,000

MFRA executives had extensive business development expertise and knowledge of the NASA customer and so we were able to craft our proposal without extensive use of costly outside consultants or proposal preparation companies.

What would you recommend to NASA to make the bid and proposal process easier to you?

Electronic submission is a significant help to small businesses to avoid the cost of multiple volume/copies hardcopy production. Access to NASA customers during Industry Days and one-on-one meetings is also very helpful.

How has your business evolved or grown supporting NASA?

The formation of the MFRA joint venture has helped all three member companies gain important past performance experience that we will apply to the future growth of the individual companies

as well as the JV itself. Metis and FRA both started at NASA Ames Research Center. The MFRA member companies have all continued to grow and diversify since being awarded the SimLabs III contract.

What three attributes do you feel contributed the most to your success?

First and foremost, the composition and strength of our team: JV members, subcontractors, and preferred vendors formed a very strong consortium for contract execution. Second: years of experience serving NASA led to a good understanding of customer requirements and challenges. And finally, our competitive pricing offered the best value to NASA.



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HERNDON SOLUTIONS GROUP, LLC

GLENN RESEARCH CENTER



HSG field team performing ground water sampling.

Tell us about your company's history and its capabilities.

Herndon Solutions Group, LLC (HSG) has been serving the Federal Government for more than 10 years in the specialized fields of environmental compliance and environmental and occupational health and safety. HSG's team of scientists, medical professionals, and environmental specialists deliver cost-effective solutions to Federal, state, and local governments that have unique challenges, especially in the areas of adaptation to changing requirements. Starting in niche areas of emergency planning, site remediation, and compliance in the southwest, HSG's portfolio has grown to encompass industrial hygiene and occupational health and wellness, and performs work in 11 states across the continental United States and Hawaii.

How many employees does your company have?

0–50

Describe what services or support you provided at the NASA Center(s).

HSG is the prime contractor for the Medical and Fitness Services (MFS) contract at the NASA Glenn Research Center. Awarded on December 1, 2018, the contract provides a fully staffed, on-Center occupational health clinic and fitness center.

HSG is the prime contractor for the Langley Research Center Environmental Support Services (ESS) contract, awarded in October 2017, providing full service environmental compliance and hazardous waste disposal for the Center in Hampton, VA.

HSG is the managing member of the joint venture IMSS, LLC, which has been the prime contractor for the Kennedy Environmental and Medical Contract (KEMCON) since 2015. HSG provides the multi-user spaceport with the full range of environmental, occupational, and industrial health services.

To which opportunity did you respond (Center and RFP name) and how did you find out about the opportunity?

NASA Glenn Research Center RFP

NNC18ZQS01R, Medical and Fitness Services

(MFS). HSG learned of this opportunity through NASA Small Business sponsored events and by monitoring procurement sites, such as FBO.gov.

How long (in months) did you spend tracking the opportunity prior to proposal submission?

19–24 months

How far in advance of the RFP did you start your pursuit and visits with the customer?

7–12 months

Did you start writing your proposal before the draft RFP was released?

Yes

How many pre-RFP visits were made to NASA during your capture and proposal efforts?

1–3

How did you develop your team?

HSG actively sought a local partner who was a major medical provider—University Hospitals based in Cleveland, OH—prior



Aerospace medicine emergency drill.

to the RFP in order to meet NASA's growing interest in expanding the scope and capabilities of occupational health services provided on NASA Centers. While HSG is fully capable of delivering the core services, University Hospitals provides efficient reach back for unique medical requirements not efficient to sustain at a clinic. It also allows the contract to expand services at no additional cost to the Government, making the overall support to NASA more efficient.

What factors did you consider when selecting your teammates and subcontractors?

We selected our teammates and subcontractors based on their local capability, ability to augment HSG's skills with reachback and surge support, and prior NASA support experience.

What do you think were the most important factors to forming a winning team?

The most important factors were providing a team that combined significant prior NASA experience and cost effective solutions with a proven ability in change management to meet the new challenges being realized by NASA in the occupational health and wellness environment. The HSG management team has significant experience in both GRC specific requirements and the commercial industry, while HSG and our partner, University Hospitals, brought innovative solutions from other Centers and a hospital network.

Did you attend the Small Business Council meetings?

Yes

Did you attend Industry Day?

Yes



Hazardous waste processing.

Did you find the NASA proposal took less time or more time to prepare than you expected? Compared to other Federal agencies?

The NASA proposal was representative of other agencies' proposal efforts, while being somewhat more complicated in development due to the details necessary for a cost-type contract. In HSG's opinion, this was the right contracting mechanism for this particular contract situation.

What was the estimated total cost to your company to prepare the proposal?

\$25,000–\$50,000

What would you recommend to NASA to make the bid and proposal process easier to you?

We recommend that NASA retains the ability to provide technical approaches to the significant elements of the contract and keep "Best Value" as a primary grading criteria. Recently, some NASA procurements have transitioned to a "Past Performance and Cost" structure, which may on the onset appear to be simpler in proposal structure. However, the inability of the contractor to provide justification for how their company can support the specific needs of the Center, and the over-emphasis on cost alone, makes the proposal process significantly higher risk, and therefore more challenging, for the contractor.



Occupational Health blood pressure checks at GRC.



Occupational Health Clinic providing immunizations.

How has your business evolved or grown supporting NASA?

NASA has given HSG the opportunity to significantly grow as a small business and expand into new service areas, such as occupational health, as well as provide a foundational platform for HSG to expand into the commercial space industry.

What three attributes do you feel contributed the most to your success?

1. NASA's commitment to supporting small businesses and dedicated effort to making significant contracts available to the small business community.
2. NASA's recognition of "Best Value" in a competitive marketplace, balancing more than just cost or past performance, and providing credibility to innovation and technical approach to the NASA unique requirements.
3. The ability of HSG to recruit and support key personnel and team members with proven leadership and technical capabilities, especially where they can service in multiple roles, and not just as managers.



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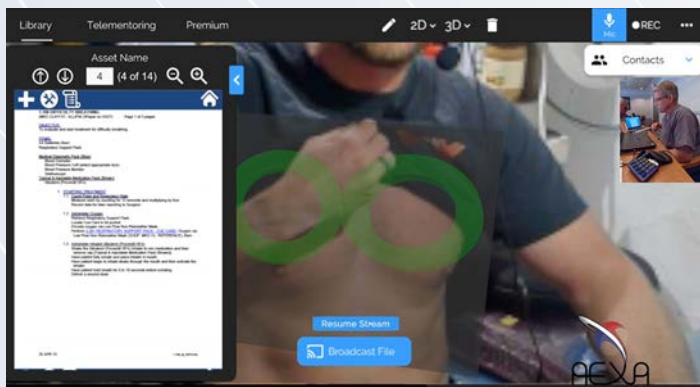
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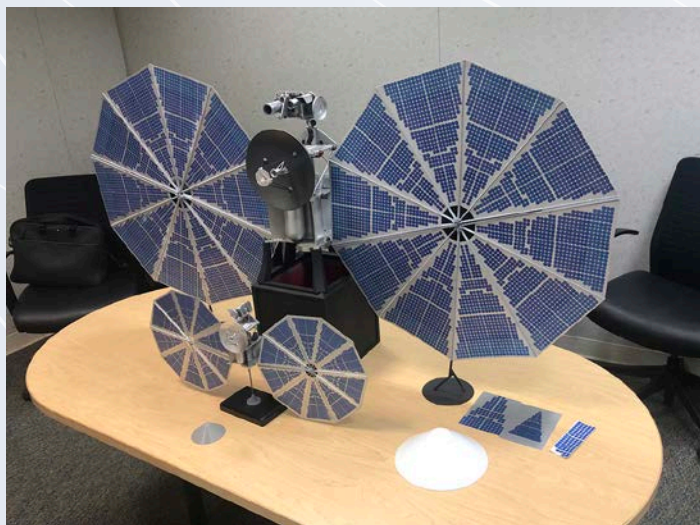
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AEXA AEROSPACE, LLC

JOHNSON SPACE CENTER



ARMentor application during NEEM023 telemonitoring session.



3D Printed mock-up of LUCY for Lockheed Martin.

Tell us about your company's history and its capabilities.

Founded in 2012, Aexa is a small business with offices in Houston, TX, and Huntsville, AL. We developed an augmented reality software application, HoloWizard, for operational use in human space exploration and other Government and commercial sectors. HoloWizard is now available in the Microsoft Store. Aexa also has capabilities in 3D printing of complex spacecraft models and virtual reality video tours of NASA facilities.

Aexa President and Chief Executive Officer Fernando De La Peña also founded the International Air and Space Program, which attracts hundreds of participants both in-person and online from around the world to participate in space exploration technology

challenges. Aexa conducts a similar program in medical research and innovation, the International Medical Innovation and Research Program.

How many employees does your company have?

0–50

Describe what services or support you provided at the NASA Center(s).

Aexa provides augmented reality software applications for the training of International Space Station (ISS) payload controllers at the NASA Marshall Space Flight Center. Aexa also developed an augmented reality application that enables NASA Johnson Space Center (JSC) medical personnel to guide ISS crew medical officers through complex medical procedures to treat ISS crew members. This application was successfully demonstrated on the NASA Extreme Environment Mission Operation 23 mission in June 2019.

Aexa also is developing scale models of the Lockheed Martin Lucy spacecraft. Lucy will explore six Trojan asteroids, a unique family of asteroids that share Jupiter's orbit around the Sun. Additionally, Aexa is developing a virtual reality video of the JSC neutral buoyancy laboratory for Raytheon.

To which opportunity did you respond (Center and RFP name) and how did you find out about the opportunity?

Aexa has responded to a number of NASA RFPs, including the NASA JSC Open Innovations Support Services (NOIS) procurement and several JSC and NASA Headquarters Small Business Innovations Research (SBIR) announcements. Aexa uses a commercial search engine to identify future bid opportunities so that we can completely capture activities well in advance of the RFP release. We attend all NASA small business events to build networks and identify additional opportunities.

How long (in months) did you spend tracking the opportunity prior to proposal submission?

7–12 months

How far in advance of the RFP did you start your pursuit and visits with the customer?

0–6 months



Fernando De La Peña Llaca, CEO of Aexa Aerospace, standing at the Orion spacecraft mockup at the Neutral Buoyancy Laboratory.

Did you start writing your proposal before the draft RFP was released?

Yes

How many pre-RFP visits were made to NASA during your capture and proposal efforts?

1–3

How did you develop your team?

Aexa did not seek subcontractors for the NOIS opportunity.

What factors did you consider when selecting your teammates and subcontractors?

Aexa compared our capabilities to the RFP requirements to determine whether we need subcontractor teammates to offer NASA a complete solution. We also surveyed companies who work in this space to see whether their capabilities might provide a more robust solution than we alone can provide.

What do you think were the most important factors to forming a winning team?

The most important factors are 1) building a team that will meet all RFP requirements, 2) the past performance records of teammates, and 3) the ability to provide a competitive price.

Did you attend the Small Business Council meetings?

Yes

Did you attend Industry Day?

Yes

Did you find the NASA proposal took less time or more time to prepare than you expected? Compared to other Federal agencies?

About the same.

What was the estimated total cost to your company to prepare the proposal?

\$25,000–\$50,000

What would you recommend to NASA to make the bid and proposal process easier to you?

1. Always issue a draft RFP
2. On the Center procurement site, provide a technical library for the procurement
3. Always allow 45 days for proposal preparation

How has your business evolved or grown supporting NASA?

Aexa has evolved by actively supporting NASA forums and by forming networks with NASA program, project, and technical personnel. Aexa participates in the JSC Small Business Council, JSC National Management Association chapter, and the JSC National Contract Management Association chapter. This participation contributed to NASA's mission success and put a spotlight on the company. Because we are widely recognized, we are now being approached by other companies to pursue opportunities. Since our startup as a new company, Aexa today has three active subcontracts with companies supporting NASA.

What three attributes do you feel contributed the most to your success?

We believe that having personnel with NASA experience, being a good partner that is easy to do business with, and having competitive pricing most contributed to our success.



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Category: Small Disadvantaged Business

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UNITED SPACE COAST CABLES

KENNEDY SPACE CENTER



Technicians verifying drawing package and kit prior to assembly.

Tell us about your company's history and its capabilities.

Founded in 2011, the core management staff at United Space Coast Cables (USCC) has nearly a century of combined experience in high tech manufacturing that specializes in a wide spectrum of military, medical, and industrial markets. Our company views every contract and customer as a partnering opportunity because we realize we're here to ensure the success of both and strive to build partnerships by honoring our commitments. It is our priority and our management's commitment to deliver high quality and highly reliable products on time while maintaining an emphasis on driving down costs. Our core competency is low volume/high mix, highly complex cable assemblies and harnesses.

How many employees does your company have?

0–50

Describe what services or support you provided at the NASA Center(s).

Although we have not yet had an opportunity to support NASA directly, we have responded to several RFPs/RFQs as a first-tier subcontractor. We have manufactured custom build-to-print cable assemblies and wiring harnesses and have provided engineering support to several companies the past few years at the NASA

Kennedy Space Center (KSC), including Abacus, AFDS, and Lockheed Space. In addition, we have helped many customers realize significant cost reductions due to our quick-turn, lean and efficient processes.

To which opportunity did you respond (Center and RFP name) and how did you find out about the opportunity?

As stated above, USCC has not yet participated in NASA proposals directly, however we have responded to several RFPs/RFQs as a first-tier subcontractor. USCC has also attended NASA Business Opportunity Expos, as well as KSC Prime Time events.

How long (in months) did you spend tracking the opportunity prior to proposal submission?

N/A

How far in advance of the RFP did you start your pursuit and visits with the customer?

N/A

Did you start writing your proposal before the draft RFP was released?

N/A

How many pre-RFP visits were made to NASA during your capture and proposal efforts?

N/A

How did you develop your team?

In addition to hiring experienced talent, USCC is passionate about supporting our local community by partnering with the Economic Development Commission's (EDC) Certified Production Technician Program. We are also partnered with employU, providing on-the-job training for students in Brevard County. USCC was awarded the 2018 STEM Innovator of the Year from Space Coast Women in Defense.

What factors did you consider when selecting your team-mates and subcontractors?

USCC takes into account a person's experience, reliability, attention to detail, ability to learn, passion to succeed, talent for



All product goes through 100% in-process and final testing.

innovation, and their willingness to go above and beyond to support our customers.

What do you think were the most important factors to forming a winning team?

Some of the most important factors are selecting the right team leader, aligning team members and responsibilities with expertise and skill sets, providing development opportunities, and setting clear expectations and timelines. Effective teams also need empowerment and accountability.

Did you attend the Small Business Council meetings?

No

Did you attend Industry Day?

Yes

Did you find the NASA proposal took less time or more time to prepare than you expected? Compared to other Federal agencies?

While we have yet to receive proposals directly from NASA, based on overall feedback, USCC has a very prompt response time due to efficient quoting processes.

What was the estimated total cost to your company to prepare the proposal?

N/A

What would you recommend to NASA to make the bid and proposal process easier to you?

N/A

How has your business evolved or grown supporting NASA?

When USCC began working with the Abacus team several years ago, we quickly realized that we could be providing additional value overall by adopting more of a “collaborative” approach to working with our customers. Since then, we continually look for opportunities to improve our business processes, which in turn provides better service to our customers.

What three attributes do you feel contributed the most to your success?

USCC’s leadership, vision, and business strategy most contributed to our success.



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SCIENCE SYSTEMS AND APPLICATIONS, INC.

LANGLEY RESEARCH CENTER



SSAI's LaRC Staff outside of IESB—2019.

Laboratory (JPL). Additionally, we support multiple research grants awarded by NASA Headquarters (HQ). We have participated in more than 150 Earth and space science missions, supporting instrument development and operations, algorithm development, data analysis, management, archive and distribution, field campaign planning and execution, remote sensing applications, research publication, and education outreach. Our scientists have contributed to improvements in our understanding of the processes that govern Earth and its changing environment, and those responsible for the evolution of the early universe.

Tell us about your company's history and its capabilities.

From its start in 1977 as a one-person company developing ozone retrieval algorithms for the Nimbus mission at NASA Goddard Space Flight Center (GSFC), Science Systems and Applications, Inc.'s (SSAI) work and growth have been fueled by a passion for science and its enabling technologies. Over our history, SSAI has worked as a collaborative partner to our customers, contributing to hundreds of peer-reviewed scientific papers across an impressive breath of disciplines. Our staff has supported efforts across all stages of the mission life-cycle for ground-based, airborne, and space flight projects. We started supporting NASA at Langley Research Center (LaRC) in 2006 and have approximately one-third of our company working at LaRC on multiple contracts.

How many employees does your company have?

501–1000

Describe what services or support you provided at the NASA Center(s).

SSAI provides science, information analytics, and instrument engineering services to NASA GSFC, LaRC, and Jet Propulsion

To which opportunity did you respond (Center and RFP name) and how did you find out about the opportunity?

SSAI responded to LaRC's Science, Technology, and Research Support Services III (STARSS III) opportunity. As part of a specific corporate goal to continue to broaden our work and capabilities, SSAI bid on and won the original STARSS contract in 2006. We won the follow-on STARSS II contract in 2012. As the incumbent, we were aware of the STARSS III opportunity.

How long (in months) did you spend tracking the opportunity prior to proposal submission?

Over 49 months

How far in advance of the RFP did you start your pursuit and visits with the customer?

25–36 months

Did you start writing your proposal before the draft RFP was released?

No



SSAI staff designed, built, and now maintains the new CERES Ocean Validation Experiment (COVE) Site in Granite Island, MI.

How many pre-RFP visits were made to NASA during your capture and proposal efforts?

More than 10.

How did you develop your team?

As the incumbent, we had a well-functioning team on STARSS II. However, SSAI is always proactively seeking new skills in order to address NASA requirements anticipated to materialize 2, 5, and 10 years in the future. As such, we made changes to our team to enhance our capabilities for STARSS III.

What factors did you consider when selecting your team-mates and subcontractors?

First, we looked for the specific technical expertise each potential subcontractor offered. We dug deep to make sure we understood exactly what skills the company had that complemented SSAI and addressed a specific customer need(s). Second, we looked for a cultural fit—did they have and display the same cultural values that we hold dear? Third, we assessed their past performance and the overall expected expense.

What do you think were the most important factors to forming a winning team?

Important factors included strong technical qualifications, highly relevant past performance, an experienced management team, reasonable costs, and innovative solutions that will be responsive to future needs of the supported organization.

Did you attend the Small Business Council meetings?

Yes

Did you attend Industry Day?

Yes

Did you find the NASA proposal took less time or more time to prepare than you expected? Compared to other Federal agencies?

Overall, it was consistent with our prior experience on other NASA opportunities. Compared to other Federal agencies, the proposal took more time than opportunities with the National Oceanic and Atmospheric Administration (NOAA), but less time than opportunities with the United States Air Force (USAF) and other Department of Defense (DOD) agencies.

What was the estimated total cost to your company to prepare the proposal?

\$100,000 and above

During the early capture stage, the effort was typical of a NASA opportunity and included visits to stakeholders to learn about requirements, challenges, etc., as well as multiple meetings with potential industry partners. Since we were the prime contractor, SSAI paid the vast majority of the expenses of the proposal.

What would you recommend to NASA to make the bid and proposal process easier to you?

The most important aspect for NASA to address is schedule uncertainty and slips. In addition to capture and proposal development efforts, companies must often hire personnel in order to pursue new opportunities so that they can fill key roles on the resulting contract if successful. Thus, schedule delays not only



SSAI's Ed Winstead collects data on NASA's DC-8 aircraft during the KORUS-AQ field campaign.

significantly increase the proposal development cost, but they also result in higher costs to retain such individuals during the capture and evaluation stages of the procurement.

How has your business evolved or grown supporting NASA?

Throughout our history, SSAI has experienced steady growth. From our roots in atmospheric science, we expanded into other disciplines within the Earth sciences and then further into other science and engineering disciplines practiced by NASA. Based on the high-quality and reasonable cost of our services, we were able to continue expanding within these disciplines and become involved in instrument engineering activities, systems engineering, education and outreach, and program/project management amongst other areas.

What three attributes do you feel contributed the most to your success?

1. Depth and breadth of company's technical capability
2. Strong focus on employee satisfaction, since happy employees meet or exceed customer requirements
3. High degree of corporate flexibility and resourcefulness in finding solutions to challenging problems



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BASTION TECHNOLOGIES, INC.

MARSHALL SPACE FLIGHT CENTER



Matt Hammond, Bastion Technical Manager, briefing at the SLS Intertank Structural Qualification test.

Tell us about your company's history and its capabilities.

With a background in civil and mechanical engineering, Jorge Hernandez established Bastion Technologies, Inc. in 1998 and won his first contract supporting 3D modeling and development for Boeing on the International Space Station Program. Contracts followed in Dynamics and Control Analysis, Configuration Management, Advanced Information Technology, and Mechanical Systems Engineering Services. In July of 2007, Bastion acquired Hernandez Engineering and began providing space flight system safety and mission assurance. Today, Bastion supports NASA field installations that include MSFC, Stennis Space Center (SSC), Michoud Assembly Facility (MAF), Johnson Space Center (JSC), Glenn Research Center (GRC), Jet Propulsion Laboratory (JPL), Kennedy Space Center (KSC), as well as the Army Aviation and

Missile Command (Redstone Arsenal) and the oil and gas industry in its principal technical disciplines: mechanical design and structural analysis and safety and mission assurance services.

How many employees does your company have?

251–500

Describe what services or support you provided at the NASA Center(s).

Surveillance and analysis of MSFC (SSC/MAF) in-house and contracted design, development, manufacturing, and testing activities, for both hardware and software; support the decision-making process—open problems, hazards, and risks; fracture mechanics-based remaining life assessments of pressure vessels due to corrosion and fatigue. At JPL, Bastion delivers mission assurance support, systems engineering for manned and unmanned flight systems, spacecraft, and liquid and solid propellants. They also provide spacecraft mechanical engineering, quality assurance and inspections, HW/SW assurance-thermal and structural design, mission environmental requirements, natural space environment design and development of subsystems and components, mobility systems, entry, descent and landing, explosives, propellants and cryogenic hazards, parts engineering and reliability analysis, and radiation effects on high reliability parts and components.

To which opportunity did you respond (Center and RFP name) and how did you find out about the opportunity?

Bastion has responded to innumerable Sources Sought Notices, RFIs, BAAs, industry market surveys, RFQs, TORFQs, and RFPs over our 20-plus years of successful operations. These responses have been to both the Government and to large companies doing Federal business. We have identified these opportunities through FBO.gov, subscription sales leads, Government market intelligence, and opportunity research engines such as Deltek GovWin and epipeline, Agency/Center Acquisition Forecasts, participation in Small Business Executive Leadership Team (SBELT)/Marshall Prime Contractors Supplier Council (MPCSC) networking events, Marshall Small Business Alliance meetings; JPL Subcontractor Business Council meetings and sponsored events (i.e., JPL SB Opportunity Fair), the KSC Business Opportunities Expo, NASA OSBP newsletters/announcements,

small business roundtables, and participation in Government-sponsored Industry Days.

How long (in months) did you spend tracking the opportunity prior to proposal submission?

19–24 months

How far in advance of the RFP did you start your pursuit and visits with the customer?

13–18 months

Did you start writing your proposal before the draft RFP was released?

Yes

How many pre-RFP visits were made to NASA during your capture and proposal efforts?

4–6

How did you develop your team?

Bastion performs an independent assessment of the lower-tier/subcontractor opportunities by evaluating scope requirements, conducting a capability gap analysis, and identifying qualified subcontractors that would contribute to the team. Bastion then develops and utilizes a detailed capabilities matrix approach that compares the SOW, by section, with each potential subcontractor's experience and capabilities. Completed technical matrices are obtained from potential subcontractors. Capability reviews are conducted by Bastion technical personnel and proposal and capture management to ensure that high performing companies are selected for the respective SOW areas. If full and open competition, consideration is also given to the small business' performance records, safety records, and financial stability.

What factors did you consider when selecting your team-mates and subcontractors?

Bastion's partnering strategy for an opportunity is essentially based on: 1) our understanding of the SOW and Delivery/Milestone Schedule, including the challenges and complexities of providing the highly-specialized support required of the customer organization(s); 2) our determination to deliver that support with an unmatched level of technical excellence; 3) utilizing our existing network of high-performing companies, if a full and open competition, we ensure the companies legitimately qualify for their designated socio-economic subcategory classifications, to meet all, and exceed many, of the respective customer's small business goals; and 4) requirement that subcontractors under consideration have demonstrated exceptional performance across NASA.

What do you think were the most important factors to forming a winning team?

The most important factors in forming a winning team and proposal are: 1) complete coverage of SOW based on team experience and capabilities in the core tasks; 2) understanding of customer culture; 3) insight into the customer's mission, vision, "hot buttons," and key issues; 4) unique themes and discriminators; 5) the team's collective ability to innovate; 6) demonstrated experience of rapid response to customer challenges; 7) vetted key personnel candidates ; SB attributes (if applicable); 8) exemplary past performance to reduce performance risk; and 9) teams acceptance of an integrated management and price criteria to provide a best value solution.

Did you attend the Small Business Council meetings?

Yes

Did you attend Industry Day?

Yes

Did you find the NASA proposal took less time or more time to prepare than you expected? Compared to other Federal agencies?

Our experience has been that NASA RFPs typically have extensive mission suitability volumes consisting of both management and technical components. The technical component may require a response to both the related SOW/PWS and sample task orders, technical scenarios or case studies with no or a limited technical library available, which requires more subject matter expert (SME) engagement. There may be multiple Data Requirements Documents DRDs (Plans) required at the time of proposal submission due within a 30–45 day response time. There are separate past performance and cost/pricing volumes. Sometimes there are BOE requirements that must also be consistent with cost/price volume submissions. In comparison, our recent Army Contracting Command (AMCOM) Express had a 20-page limitation on quotation narrative not inclusive of key personnel résumés, BOE, and pricing templates.

What was the estimated total cost to your company to prepare the proposal?

\$100,000 and above

Proposal costs for a specific opportunity are tracked with a unique charge number as soon as formal capture activities begin. As we have bid NASA proposals across the Agency, travel costs are also a factor. Labor for core proposal team members and SMEs are driven by the complexity of the RFP requirements. While prime

contractor bids often cost north of \$100K, subcontract engagement with large business primes are substantially less depending on their use of virtual tools for proposal development and review. Large suspenses between DFRP and FRFP release create upward pressure on proposal development costs as the initial proposal team members may no longer be available and replacements must then be brought up to speed.

What would you recommend to NASA to make the bid and proposal process easier to you?

Finalization of an Acquisition Strategy Plan prior to Industry Day is critical to capture activities and preproposal planning. Competition type (SB set-aside, contract vehicle) and scope and evaluation criteria are necessary for gate review decision making and teaming discussions. Competitions, where Firm Fixed Price contract vehicles are chosen, require the development of specific and comprehensive work load indicators and detailed Other Direct Costs (ODC) lists so that a level playing field is established. Acquisition schedules, while dynamic, should not be changing with great frequency as small businesses are making every endeavor to cascade proposal activities to maximize the quality of their design offer.

How has your business evolved or grown supporting NASA?

Bastion has been instrumental in developing PRA and FMEA techniques implemented on multiple NASA programs. After the British Petroleum (BP) Macondo oil spill, Bastion formulated a marine and well assurance program based on Bastion risk analyses techniques employed at NASA. Bastion provided marine and well assurance support to BP's fleet of drill ships and semi-submersible oil rigs. Today, Bastion has developed and successfully tested SureShear—a pyrotechnic-driven hydraulic power system that generates high shearing pressures while reducing the weight/space requirements on the BOP stack by as much as 10 times versus an equivalent conventional accumulator bank. It is easily retrofitted to a stack and can be interfaced with other safety system and/or control systems.

What three attributes do you feel contributed the most to your success?

1. Bastion's consistent technical performance driven by NASA mission-oriented key personnel and management support staff, process enhancements, and deliberate technology infusion feeds our exemplary past performance.
2. Comprehensive staffing methodology and a plan focused on the hiring of uniquely-qualified engineers, scientists, and technical professionals, including those with critical, in-demand TS/SCI clearances, which resulted in more than

600 percent growth in JPL MASS contract personnel in 3 years in a very competitive marketplace for highly skilled labor.

3. Effective direct and indirect cost control that results in competitive pricing.



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Data and applications support at SSC.

Tell us about your company's history and its capabilities.

SaiTech is a Women-Owned Small Business specializing in IT support services with extensive experience in IT engineering and operations, network engineering, technical support, telecommunications, data center, systems administration, help desk/technical support, IT security, and document management. The company has supported various NASA Centers since 1997, including: SSC, HQ, NASA Shared Services Center (NSSC), MSFC, GSFC, JPL, and White Sands Test Facility (WSTF). SaiTech is currently a prime contractor at SSC, and HQ. SaiTech's owners bring a 30-year history of supporting NASA, having engineered and integrated telecommunications infrastructure and NASA Wide Area Network. In addition to NASA, SaiTech supported DOD, Customs and Border Protection (CBP), Department of Treasury and Defense Contract Management Agency (DCMA). SaiTech's credentials are superb technical capabilities, a proven track record, and outstanding past performance from Government contracts. As evidence of our superior performance, SaiTech has been recognized with many awards including the SSC Small Business Prime Contractor of the Year 2017 and NSSC Small Business Subcontractor of the Year 2011. In the past 22 years, several of our employees have received NASA's prestigious Silver Snoopy award. SaiTech is Safety Voluntary Protection Program (VPP) Certified at Stennis, and ISO 9001 / AS9100 certified and CMMI Level 3 appraised.

How many employees does your company have?

251–500

Describe what services or support you provided at the NASA Center(s).

At SSC: IT planning; policy, security, and management services; application and system services; systems administration; data center; application and websites; audio visual/video services; telecommunications services; technology support services; document and records management; and cable plant management. At NSSC: IT applications support; database development; records management; document imaging, procurement and HR support; and IT training. At MSFC: wide area network (WAN) engineering; telecommunications; voice over IP; advanced technology development; and document and records management. At JPL: voice over IP, telecommunications, cable plant, and Deep Space Network support. At GSFC: radar communications, systems administration, and safety support. At HQ: customer relationship, data center, project management, multimedia, and mobile apps.

To which opportunity did you respond (Center and RFP name) and how did you find out about the opportunity?

We were awarded the NASA SSC ITS Contract RFP in 2016, supporting this contract as small business prime. At HQ, SaiTech formed a joint venture with an 8(a) company and responded to the HITSS III RFP in 2017. We were awarded this prime contract in January 2019, and successfully started the contract on April 1, 2019. SaiTech has supported NASA since 1997 and we have gained knowledge and insights of contracting opportunities at various Centers. We continuously track upcoming opportunities through FBO and also Deltek's GovWin tool. We also attend NASA small business conferences at various Centers such as the ones held at MSFC, JPL, and SSC.

How long (in months) did you spend tracking the opportunity prior to proposal submission?

19–24 months

How far in advance of the RFP did you start your pursuit and visits with the customer?

19–24 months



SaiTech Safety commitment.

Did you start writing your proposal before the draft RFP was released?

Yes

How many pre-RFP visits were made to NASA during your capture and proposal efforts?

4–6

How did you develop your team?

We develop our team based upon RFP requirements. We do a gap analysis to determine what functional areas that we can perform and where we need teammates that can complement our technical capabilities. We talk to both small and large companies that have complementing capabilities. In selecting teammates, we consider their technical capabilities, past performance, and specific Agency experience, as well as their quality certifications. In finding



IT Support team at SSC.

teammates—it works both ways—sometimes we seek out and sometimes other companies approach us.

What factors did you consider when selecting your teammates and subcontractors?

Key factors included relevant past performance, Agency experience, previous successful working relationship, quality certifications, competitive pricing, and the ability to work as a good team partner. We also consider responsiveness to various data requests and skills in customer relationship management.

What do you think were the most important factors to forming a winning team?

Important factors included knowing the customer, their issues and concerns, and standing up a team that was able to successfully deliver the services that the customer needed.

Did you attend the Small Business Council meetings?

Yes

Did you attend Industry Day?

Yes

Did you find the NASA proposal took less time or more time to prepare than you expected? Compared to other Federal agencies?

Every proposal has its own challenges, so it is difficult to compare this particular proposal to others. However, because this was a priority effort for us, we allocated sufficient time to meet and overcome the challenges in the preparation of this proposal.

What was the estimated total cost to your company to prepare the proposal?

\$100,000 and above

What would you recommend to NASA to make the bid and proposal process easier to you?

In general, and this applies to non-NASA proposals as well: more clarity and specificity in SOW requirements is always welcome.

How has your business evolved or grown supporting NASA?

We are very happy to state that our business has grown significantly supporting NASA. SaiTech started supporting NASA in 1997. SaiTech's support started at NASA MSFC in 1997 through a subcontract with CSC. SaiTech supported NASA on various IT, telecommunications, and space communications contracts. We have provided this support as a prime as well as a subcontractor to large companies such as CSC and Harris



Data center operations.

Corporation. SaiTech has supported 10 NASA contracts at Stennis, NSSC, MSFC, JPL, and GSFC. On April 1, 2019, we started another Prime Contract (HITSS III) supporting NASA HQ. We are also starting a NASA subcontract on NEST Prime. We have approximately 200 employees supporting NASA.

What three attributes do you feel contributed the most to your success?

1. Depth and breadth of the company's and the team's past performance
2. Competitive pricing
3. Demonstrated technical and management capability



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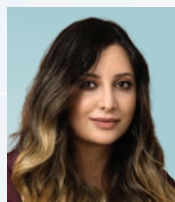


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